

PRESS RELEASE

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Enhance Machine Performance with MELSERVO MR-J5 Servo Drives

Mitsubishi Electric's new TSN-compliant MELSERVO MR-J5 series servo drives address today's demanding requirements for precision, dynamics, and multi-axis synchronization in manufacturing applications such as food and beverage, life sciences, and printing/converting. By integrating a full set of safety functions as standard and incorporating predictive maintenance capabilities, the MR-J5 series provides users with the tools they need to improve machine efficiency and availability.

End users and machine builders can enhance the performance of their production lines and systems thanks to a 3.5 kHz frequency response and a 31.25 μ s communication cycle time. In addition, by using the corresponding MELSERVO J5 motion module, users can achieve synchronization of up to 256 axes. This increased performance does not require complex setup procedures. The quick tuning function, which requires no manual adjustment, automatically generates all gain values in approximately 0.3 seconds. Once the servo is enabled, the machine is immediately ready for operation, significantly reducing commissioning time and effort.

Multi-axis servo systems rely heavily on improved synchronization to deliver higher overall performance. This is enabled through the integration of CC-Link IE TSN (Time-Sensitive Networking) technology, which provides synchronization across all connected devices with transmission speeds of up to 1 Gbps. Safety devices that can be connected to the same network as standard control products—such as inverters, HMIs and I/O devices—are also supported. Other network protocols, including EtherCAT, are available as standard.

With predictive maintenance functions integrated into the system, the MELSERVO MR-J5 series servo drives help reduce unplanned machine downtime and improve asset availability, delivering both time and cost savings. These functions are supported by Mitsubishi Electric's proprietary MAISART AI technology, enabling the servo drives to detect mechanical component deterioration in machines well before maintenance is required.

The MELSERVO MR-J5 series also enables users to save time and costs in other areas. Machine wiring is simplified through a new single-cable solution—for encoder, power and electromagnetic brake—combined with a new one-touch locking connector that eliminates the need for screw fastening. A 26-bit absolute encoder delivering up to 67 million pulses per revolution ensures highly precise motion control even in demanding applications. The elimination of an internal battery further reduces maintenance requirements and associated costs.